Strategic Goal: Clean and Safe Water

All Americans will have drinking water that is clean and safe to drink. Effective protection of America's rivers, lakes, wetlands, aquifers, and coastal and ocean waters will sustain fish, plants, and wildlife, as well as recreational, subsistence, and economic activities. Watersheds and their aquatic ecosystems will be restored and protected to improve public health, enhance water quality, reduce flooding, and provide habitat for wildlife.

BACKGROUND AND CONTEXT

Safe and clean water is needed for drinking, recreation, fishing, maintaining ecosystem integrity, and commercial uses such as agricultural and industrial production.

Our health, economy, and quality of life depend on reliable sources of clean and safe water. Waterfowl, fish, and other aquatic life that live in and on the water, as well as plants, animals, and other life forms in terrestrial ecosystems are dependent on clean water.

While the nation has made considerable progress over the past 25 years, some waters still do not meet current Clean Water Act standards.

The 1996 National Water Quality Inventory Report to Congress indicates that 16 percent of assessed rivers and streams and 35 percent of assessed lake acres are not safe for fish consumption.

Twenty (20) percent of assessed rivers and streams and 25 percent of lake acres are not safe for recreational activities (e.g, swimming). Finally, 16 percent of assessed rivers and streams and 8 percent of lake acres are not meeting drinking water standards. Many of the remaining challenges require a different approach to environmental protection because they are not amenable to traditional end-of-pipe pollution controls. These problems are generally the result of human activities.

EPA needs to motivate people to be responsible in their day-to-day decisions that affect the quality of their rivers, streams, lakes, wetlands, and estuaries.

MEANS AND STRATEGY

To help achieve the Nation's clean and safe water goal, EPA will expand implementation of the watershed approach in carrying out its statutory authorities under the Safe Drinking Water Act Amendments of 1996 and the Clean Water Act.

Protecting watersheds involves participation by a wide variety of stakeholders, a comprehensive assessment of the condition of the watershed, and implementation of solutions based on the assessment of conditions and stakeholder input. Full involvement of stakeholders at all levels of government, the regulated community, and the public are fundamental to the watershed approach.

The watershed approach helps EPA, its federal partners, states, tribes, local governments, and other stakeholders to implement tailored solutions and maximize the benefits gained from the use of increasingly scarce resources.

The Safe Drinking Water Act Amendments of 1996 charted a new and challenging course for EPA, states, tribes, and water suppliers. One of the

central provisions of the Amendments is a significantly strengthened source water protection program, which builds directly on the watershed approach. Other provisions include new requirements for establishing drinking water safety standards, which place emphasis on microbiological contaminants, disinfectant and disinfection byproducts (DBPs), and other pollutants identified as posing potentially high risks.

The Amendments also established a new Drinking Water State Revolving Fund (DWSRF) program to assist public water systems in meeting drinking water standards. They also provided for assistance to small systems to build or strengthen technical, managerial, and financial capacity. Finally they established an operator certification program and require "right-to-know" reports for all customers of public water systems.

EPA has increased its efforts to provide tools and information to assist states and tribes in protecting their residents from health risks associated with contaminated recreational waters and non-commercially caught fish. These tools will help reduce health risks including risks to sensitive populations, such as children and subsistence and recreational anglers.

EPA activities include development of criteria, enhanced fish tissue monitoring, risk assessment, and development of fish and shellfish consumption advisories. EPA will also establish improved safety guidelines and pollution indicators so that local authorities can monitor their recreational waters in a cost-effective way and close them to public use when necessary to protect human health.

For beaches, EPA's three-part strategy is to strengthen beach standards and testing, improve the scientific basis for beach assessment, and develop methods to inform the public about beach conditions.

Under the Clean Water Act, EPA will continue to develop scientifically-based water quality standards and criteria and work with its partners to apply them on a watershed basis. EPA will work with states and tribes to improve implementation of total maximum daily load (TMDL) programs that establish the analytical basis for watershed-based decisions. These decisions address the need for additional pollution reductions where standards are not being met in watersheds.

EPA will continue to develop and revise national effluent guideline limitations and standards, manage the Clean Water State Revolving Fund (CWSRF) program and other funding mechanisms, and streamline the National Pollutant Discharge Elimination System (NPDES) permit program. EPA will also continue reorienting all its point source programs to focus and coordinate efforts on a watershed basis.

The 1996 Clean Water Needs Survey estimates the Nation's water infrastructure financing need at almost $140 billion. The CWSRF is a significant financial tool for addressing this need and achieving clean and safe water. With over $13 billion worth of capitalization grants, all 50 states and U.S. territories have benefited from this and other wastewater funding.

EPA has stepped up efforts to engage a variety of stakeholders to reduce nutrients, pathogens, and other pollutants from nontraditional categories of point sources, including animal feeding operations, storm water drains, sanitary sewer overflows, and combined sewer overflows. In addition, EPA is continuing to increase and advocate the use of CWSRF funds for eligible nonpoint source and estuary projects.

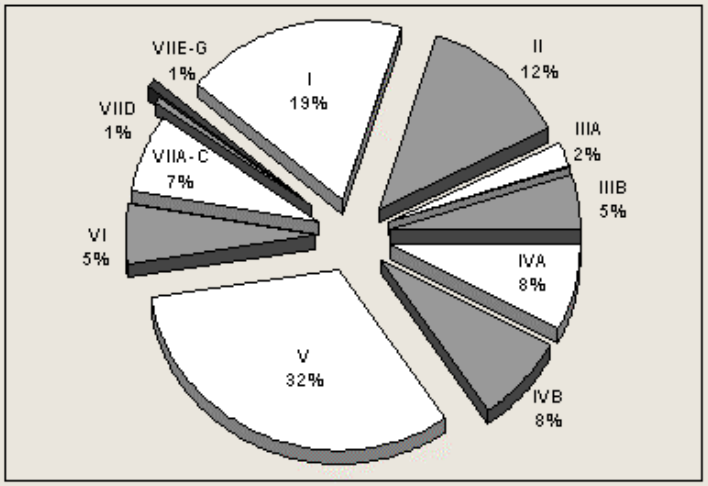
EPA is assisting states and tribes to characterize risks, rank priorities, and implement a mix of voluntary and regulatory approaches through state nonpoint source management programs. State and tribal nonpoint source programs are being strengthened to ensure that beneficial uses of water are achieved and maintained.

States will continue to implement coastal nonpoint source programs approved by EPA and the National Oceanic and Atmospheric Administration under the Coastal Zone Act Reauthorization Amendments.

States will also work with the U.S. Department of Agriculture to promote implementation of Farm Bill programs consistent with state nonpoint source management needs and priorities. EPA will also provide tools to states to assess and strengthen controls on air deposition sources of nitrogen, mercury, and other toxics.

With respect to wetlands, EPA will work with federal, state, tribal, local, and private sector partners on protection and community-based restoration of wetlands, and with its federal partners to avoid, minimize, and compensate for wetland losses through the Clean Water Act Section 404 and

NEEDS FOR PUBLICLY OWNED WASTEWATER TREATMENT FACILITIES AND OTHER ELIGIBILITIES
(January 1996 Dollars in Billions)



NEEDS CATEGORY		TOTAL NEEDS
TITLE II ELIGIBLE PROJECTS		
I	Secondary Treatment	26.5
II	Advanced Treatment	17.5
IIIA	Infiltration/Inflow Correction	3.3
IIIB	Sewer Replacement/Rehabilitation	7.0
IVA	New Collector Sewers	10.8
IVB	New Interceptor Sewers	10.8
V	Combined Sewer Overflows	44.7
VI	Storm Water*	7.4
TOTAL CATEGORIES I-VI		128.0
OTHER ELIGIBLE PROJECTS (Sections 319 and 320)		
VIIA-C	Nonpoint Source (agriculture and silviculture only)*	9.4
VIID	Urban Runoff	1.0
VIIE-G	Ground Water, Estuaries, Wetlands	1.1
TOTAL CATEGORY VII		11.5
GRAND TOTAL		139.5

*Modeled needs only. Estimated Category VI needs documented by the States are $3.2 Billion. Estimated Category VIIA-C needs documented by the States are $0.5 Billion.

Costs for operation and maintenance are not eligible for SRF funding and therefore are not included.

Farm Bill programs.

The President's Clean Water Action Plan, announced in February 1998, calls for more than 100 specific key actions by EPA and other federal agencies with either water quality responsibilities or activities that have an impact on water quality.

These key actions cover most aspects of the water program at EPA. The Action Plan mobilizes federal, state, and local agencies to work together to achieve the Nation's clean water goals through the watershed approach, brings a sharp focus to the critical actions that are required, and establishes deadlines for meeting these commitments over the next several years.

Research

EPA's research efforts will continue to strengthen the scientific basis for drinking water standards through the use of improved methods and new data to better evaluate the risks associated with exposure to chemical and microbial contaminants in drinking water. To support the Safe Drinking Water Act (SDWA) and its 1996 Amendments, the Agency's drinking water research program will develop dose-response information on DBPs, waterborne pathogens, arsenic and other drinking water contaminants for characterization of potential exposure risks from consuming tap water. Research will also include increasing the focus on filling key data gaps and developing methods for chemicals and microbial pathogens. The Agency will develop and evaluate cost-effective treatment technologies for removing pathogens from water supplies while minimizing DBP formation, and for maintaining the quality of treated water in the distribution system and preventing the intrusion of microbial contamination.

Research to support the development of ecological criteria will improve our understanding of the structure, function and characteristics of aquatic systems, and will evaluate exposures to stressors and their effects on those systems. This research can then be used to improve risk assessment methods to develop aquatic life, habitat, and wildlife criteria. The Agency also will develop cost effective technologies for managing contaminated sediments with an emphasis on identifying innovative *in situ* solutions. EPA will continue to develop diagnostic tools to evaluate the exposures to toxic constituents

STATUTORY AUTHORITY

- Clean Air Act
- Clean Air Act Amendments (CAA)
- Clean Vessel Act
- Clean Water Act (CWA)
- Coastal Wetlands Planning, Protection, and Restoration Act of 1990
- Coastal Zone Act Reauthorization Amendments of 1990
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Endangered Species Act
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
- Great Lakes Water Quality Agreement
- Marine Plastic Pollution, Research and Control Act (MPPRCA) of 1987
- Marine Protection, Research and Sanctuaries Act (MPRSA)
- National Environmental Policy Act (NEPA)
- National Invasive Species Act of 1996
- North American Wetlands Conservation Act
- Ocean Dumping Ban Act of 1988
- Pollution Prevention Act (PPA)
  Ramsar Convention on Wetlands (1971)
- Resource Conservation and Recovery Act (RCRA)
- Safe Drinking Water Act (SDWA)
- Shore Protection Act of 1988
- Toxic Substances Control Act (TSCA)
- Water Resource Development Act (WRDA)

of wet weather flows, and develop and validate effective watershed management strategies for controlling wet weather flows, especially when they are high volume and toxic. This research will also develop effective beach evaluation tools necessary to make timely and informed decisions on beach advisories and closures.

Resource Summary

(Dollars in thousands)

	FY 1999 Pres. Budget	FY 1999 Enacted
Clean and Safe Water	**$2,815,308.5**	**$3,418,339.7**
Safe Drinking Water, Fish and Recreational Waters	$1,026,835.1	$1,092,624.2
EPM	$101,726.1	$110,067.9
S&T	$45,828.5	$49,847.0
STAG	$879,280.5	$932,709.5
Conserve and Enhance Nation's Waters	$300,672.5	$339,236.8
EPM	$135,543.9	$166,215.1
S&T	$15,599.3	$19,492.4
STAG	$149,529.3	$153,529.3
Reduce Loadings and Air Deposition	$1,487,800.9	$1,986,478.7
EPM	$127,453.8	$133,781.6
S&T	$7,347.1	$8,376.1
STAG	$1,353,000.0	$1,844,321.0
Total Workyears:	2,465.9	2,496.1

Strategic Objective: Safe Drinking Water, Fish and Recreational Waters

Key Programs

(Dollars in thousands)

	1999 Pres Bud	1999 Enacted
Drinking Water Regulations	$38,860	$33,886
Drinking Water Implementation	$30,917	$31,688
UIC Program	$11,269	$11,745
Rural Water Technical Assistance	$232	$9,955
State PWSS Grants	$93,781	$93,781
State Underground Injection Control Grants	$10,500	$10,500
Source Water Protection (CWAP – related)	$13,001	$11,686
Water Infrastructure :Drinking Water State Revolving Fund (DW-SRF)	$775,000	$775,000
EMPACT	$769	$1,291
Environmental Justice	$881	$881
Research: Safe Drinking Water Research	$43,702	$47,728
Project XL	$391	$391

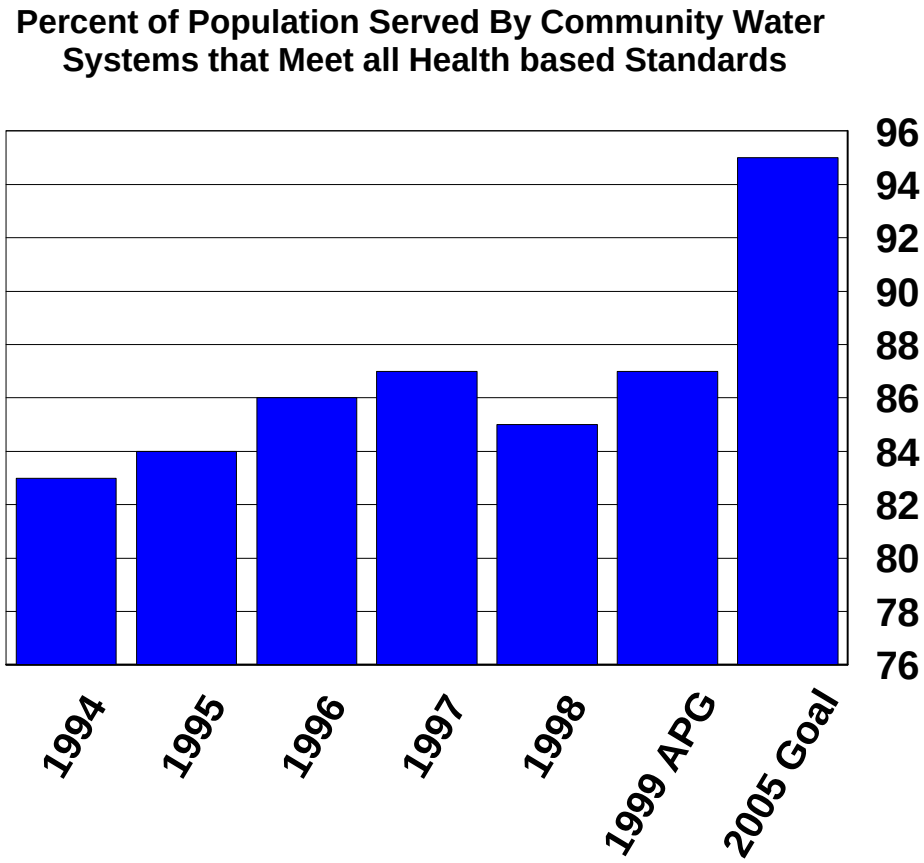
Annual Performance Goals and Measures

DRINKING WATER HEALTH STANDARDS

By 1999: 89% (an increase of 1% over 1998) of the population served by community water systems will receive drinking water meeting all health-based standards, in effect as of 1994, up from 83% in 1994.

Performance Measures:	**Target:**
Population served by CWSs that will receive drinking water for which there have been no violations during the year of any federally enforceable health-based standard that were in place by 1994.	89% Population

Baseline: In 1994, 83% of the population that was served by community water systems received drinking water meeting all health-based standards. Note that a recent recalculation of the baseline for 1994 has resulted in a baseline that is 2% higher than that reported in the FY 1999 President's Budget.



STANDARDS FOR DRINKING WATER CONTAMINANTS

By 1999: EPA will issue and begin implementing two protective drinking water standards for high- risk contaminants, including disease-causing micro-organisms (Stage I Disinfection/Disinfection Byproducts and Interim Enhanced Surface Water Treatment Rules).

Performance Measures:	**Target:**
Regulations promulgated that establish protective levels for high-risk contaminants	2 Rules

Baseline: These are new regulations.

SOURCE WATER PROTECTION

By 1999: 4,400 community water systems will be implementing programs to protect their source water (an increase of 1,650 systems over 1998).

Performance Measures:	**Target:**
CWSs with ground or surface water protection programs in place	4,400 CWSs

Baseline: In 1998, 2,750 community water systems implemented programs to protect their source water resources.

RESEARCH: CRITICAL DOSE-RESPONSE DATA

By 1999: EPA will develop critical dose-response data for disinfectant by-products (DBPs), waterborne pathogens, and arsenic for addressing key uncertainties in the risk assessment of municipal water supplies.

Performance Measures:	**Target:**
Data on first city study on microbial enteric disease.	30-SEP-99
Complete hazard i.d./screening studies on reproductive/developmental effects of selected DBPs.	30-SEP-99

Baseline: Development of "formal" baseline information for EPA research is currently underway.

Strategic Objective: Conserve and Enhance Nation's Waters

Key Programs

(Dollars in thousands)

	1999 Pres Bud	1999 Enacted
Water Quality Criteria and Standards (CWAP)	$19,670	$17,843
Wetlands (CWAP)	$17,489	$16,111
National Estuaries Program (CWAP)	$16,399	$16,544
South Florida (Everglades) (CWAP)	$3,076	$3,099
Chesapeake Bay (CWAP)	$18,880	$19,630
Great Lakes (CWAP)	$6,355	$5,382
Gulf of Mexico (CWAP)	$4,284	$3,799
Long Island Sound (CWAP)	$500	$900
Pfiesteria (CWAP)	$500	$2,500
Pacific Northwest (CWAP)	$821	$714
Lake Champlain (CWAP)	$1,000	$2,000
State Pollution Control Grants (Section 106) (CWAP)	$115,529	$115,529
State Water Quality Cooperative Agreements (CWAP)	$19,000	$19,000
State Wetlands Program Grants (CWAP)	$15,000	$15,000
EMPACT	$0	$649

Annual Performance Goals and Measures

UNIFIED WATERSHED ASSESSMENTS

By 1999: As part of the Clean Water Action Plan, all states will be conducting or have completed unified watershed assessments, with support from EPA, to identify aquatic resources in greatest need of restoration or prevention activities.

Performance Measures:	**Target:**
States that are conducting or have completed unified watershed assessments	50 States

Baseline: This is the first time Unified Watershed Assessments have been done. The baseline is zero.

WATERSHED RESTORATION

By 1999: EPA will provide funding to restore wetlands and river corridors in 30 watersheds that meet specific "Five Star Project" criteria relating to diverse community partnerships (for a cumulative total of 44 watersheds).

Performance Measures:	**Target:**
Watersheds/community-based wetlands/river corridors restoration projects funded by EPA's STAR Program. (Cumulative total).	44 Watersheds

Baseline: As of August 1998, EPA co-operated on and supported wetland and river corridor projects in 14 watersheds. The Five-Star Restoration Challenge Grant Program is an outgrowth of President Clinton's Clean Water Action Plan. The program is open to any public or private entity and provides modest financial assistance to support community- based wetland/riparian restoration projects and locally-based, natural resource stewardship.

RESEARCH: AQUATIC STRESSORS

By 1999: EPA will provide data and information for use by states and regions in assessing and managing aquatic stressors in the watershed, to reduce toxic loadings and improve ecological risk assessment.

Performance Measures:	**Target:**
Develop and provide a research strategy for integrating economic assessment with ecological risk assessment of multiple aquatic stressors applied at two locations.	30-SEP-99

Baseline: Development of "formal" baseline information for EPA research is currently underway.

Strategic Objective: Reduce Loadings and Air Deposition

Key Programs

(Dollars in thousands)

	1999 Pres Bud	1999 Enacted
Rural Water Technical Assistance	$1,456	$3,095
Effluent Guidelines (CWAP)	$23,716	$22,366
NPDES Program (CWAP)	$43,409	$35,142.8
State Nonpoint Source Grants (CWAP)	$200,000	$200,000
National Nonpoint Source Program Implementation (CWAP)	$15,076	$15,477
Water Infrastructure: Clean Water State Revolving Fund (CW-SRF)	$1,075,000	$1,350,000
Water Infrastructure: Alaska Native Villages	$15,000	$30,000
Water Infrastructure: Boston Harbor	$50,000	$50,000
Water Infrastructure: Bristol County	$3,000	$2,610
Water Infrastructure: New Orleans	$10,000	$6,525
Sustainable Development Challenge Grants	$2,015	$0*
Urban Environmental Quality and Human Health	$815	$0
Project XL	$174	$174
Common Sense Initiative	$1,339	$0
Research: Watershed Research	$7,347	$8,376

*Resources in 1999 Enacted Budget were transferred to Goal 8

Annual Performance Goals and Measures

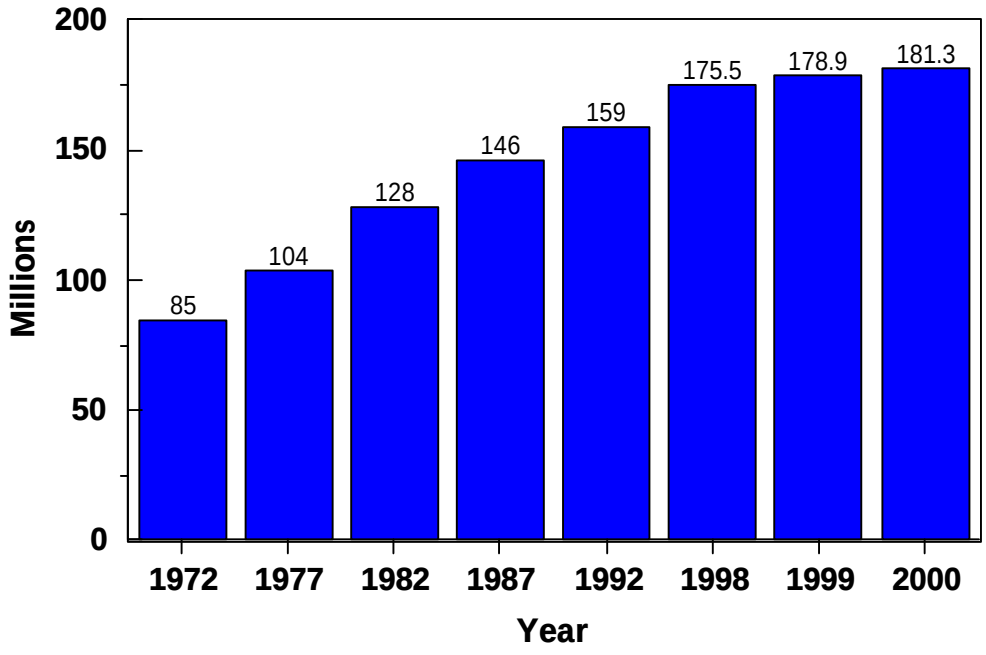
SECONDARY TREATMENT OF WASTEWATER

By 1999: Another 3.4 million people will receive the benefits of secondary treatment of wastewater, for a total of 179 million.

Performance Measures:	**Target:**
Additional people who will receive the benefits of secondary or better treatment of wastewater	3.4 M People

Baseline: In July 1998, 175.5 million people were receiving secondary treatment of wastewater according to EPA's Clean Water Needs Survey Database. Note that the cumulative total (179 million people) reflects revised estimates.

U.S. POPULATION SERVED BY SECONDARY TREATMENT OR BETTER



COMBINED SEWER OVERFLOWS/STORM WATER CONTROLS

By 1999: More than 220 communities will have local watersheds improved by controls on combined sewer overflows and storm water.

Performance Measures:	**Target:**
Communities that will have local watersheds improved by controls on CSOs and storm water	220 Communities

Baseline: No baseline information exists prior to FY 1999.

NONPOINT SOURCE PROGRAMS

By 1999: In support of the Clean Water Action Plan, 10 additional states will upgrade their nonpoint source programs, to ensure that they are implementing dynamic and effective nonpoint source programs that are designed to achieve and maintain beneficial uses of water.

Performance Measures:	**Target:**
States and Territories that have upgraded their NPS programs (incorporating the 9 key elements outlined in national grant guidance), thereby ensuring implementation of an effective program.	10 States

Baseline: In 1998, 2 states upgraded their nonpoint source programs.

RESEARCH: WATERSHED MANAGEMENT TOOLS

By 2003: Deliver support tools, such as watershed models, enabling resource planners to select consistent, appropriate watershed management solutions and alternative, less costly wet-weather flow control technologies.

Performance Measures:	**Target:**
Model Linking Urban Stormwater Management Models and Geographic Information System (GIS).	30-SEP-00

Baseline: Development of "formal" baseline information for EPA research is currently underway.

EXTERNAL FACTORS

Drinking Water and Source Water

The Safe Drinking Water Act (SDWA) Amendments of 1996 comprise one of the first environmentally-focused statutes to establish not only regulatory, programmatic, enforcement, and management/administration provisions to ensure that safe drinking water is available nationwide, but also establishes an outreach process to involve all stakeholders in the development and implementation of the statutory provisions. To date, this extensive stakeholder involvement has had major benefits on the Agency's efforts in implementing the 1996 SDWA amendments. To listen to our stakeholders, incorporate their views, and keep the process moving, while focusing on our mutual goal of public health protection has taken the meaning of partnership to a new level. The complexity of upcoming regulations and the time-consuming process of gaining consensus with stakeholders pose challenges in implementing the 1996 SDWA amendments.

The adoption of health-based and other programmatic regulations by the states is another area of concern. Since states have primary enforcement authority (primacy) for drinking water regulations, it is critical that the states have sufficient staff and resources to work with public water systems to ensure that they are implementing and complying with the new regulations. To help states and tribes, EPA has increased funding for grants to states and tribes to run their drinking water programs by approximately 60% since FY 1993

EPA is investing substantially in areas to provide technical assistance and training to the states on the small systems variances and exemptions. EPA is also investing in consumer confidence report rules promulgated in 1998 as well as the health-based, microbial regulations that will be promulgated early in 1999. Without adequate state staff and resources to work with community water systems, there is a risk that the overall objective of protection of public health and its specific annual performance goals for the drinking water and ground water program will not be met.

The CWAP provides a blueprint for a cooperative approach to restoring and protecting water quality in which Federal, state, tribal, and local governments work collaboratively to focus resources and implement effective strategies.

A key element of the CWAP is the integration of public health goals with aquatic ecosystem goals when identifying watershed priorities. To help facilitate a comprehensive framework, Federal

agencies involved in water quality initiatives are asked to direct "program authorities, technical assistance, data and enforcement resources to help states, tribes, and local communities design and implement their drinking water source water assessment and protection programs within the unified watershed protection and restoration efforts..." (Clean Water Action Plan, page 29).

Although EPA expects participating Federal agencies to sign a Federal Agency Agreement developed for this aspect of the CWAP, the Agency has minimal ability to ensure that these agencies work aggressively to promote source water assessment and protection activities. EPA staff will devote substantial "front-end" time in the negotiation of this agreement with pertinent Federal agencies early in 1999 to maximize the expected benefits in drinking water and ground water programs in future fiscal years.

Fish and Recreational Waters

The Agency=s success in protecting human health from consumption of contaminated fish or exposure to contaminated recreational waters could be compromised by several major constraints, including lack of regulatory authority, inability to measure behavior, and lack of adequate state and local resources.

The Clean Water Act does not require that states or tribes operate fish advisory or beach protection programs. The Agency=s role is primarily to support them through guidance, scientific information, and technical assistance. EPA can not take regulatory action to assure that states and tribes conform to guidance; therefore, success depends on state/tribal/local commitment to achieving these goals.

One way of determining whether we have reduced the consumption of contaminated fish and shellfish is to find out if people eat the fish they catch from waters where fish advisories have been issued. In order to determine whether we have reduced exposure to contaminated recreational waters, we also need to know if people comply with beach closure notices when they are issued. Acquiring statistical information for such determinations is difficult.

Without comprehensive, consistent monitoring of all the Nation=s waters, we do not know how many surface waters should be under advisory or how many beaches should be closed. This expensive and time-consuming task is beyond the resources of most states.

Watersheds and Wetlands

EPA=s efforts to meet our watershed protection objective are predicated on the continuation and improvement of relationships with our Federal, state, tribal, and local partners. Because of the vast geographic scope of water quality and wetlands impairments and the large number of partners upon whose efforts we depend, we must continue to build strong and lasting relationships with all levels of government, the private sector, research community, and interest groups. Success in meeting our wetlands objectives is particularly dependent on the continuing and enhanced cooperation with the Army Corps of Engineers, Fish and Wildlife Service, National Marine Fisheries Service, and the Natural Resources Conservation Service.

The Clean Water Action Plan development process underscored the interrelations of the Federal government=s environmental protection and stewardship agencies and programs, and the critical importance of working together to maximize achievements. Without continued government-wide coordination and financial commitment to the Plan=s implementation, we may not meet our water quality objectives. This is particularly true for successful enhancement of state nonpoint source management programs. The states will also need to continue efforts to overcome historical institutional barriers to achieve full implementation of their coastal nonpoint pollution control programs as required

under the Coastal Zone Act Reauthorization Amendments (CZARA).

Fundamental to all of the Agency=s efforts to meet this objective is managing water quality resources on a watershed basis, with full involvement of all stakeholders including communities, individuals, business, state and local governments and tribes. EPA=s ability to meet this objective will depend on the success of regulatory and non-regulatory programs and nationwide efforts to provide and use a broad range of policy, planning, and scientific tools to establish local goals and assess progress.

In addition, we must continue to improve our understanding of the environmental baseline and our ability to track progress against goals, which also depends on external parties. The Index of Watershed Indicators provides reasonable and defensible assessments of water quality, and we will continue to depend upon and provide support to our partners and stakeholders in their efforts to improve measurement tools and capabilities. State 305(b) assessments also provide an adequate representation of individual states water quality conditions, however the agency recognizes that differing processes and methods among states can result in varying depictions of the Nation's water quality. The Agency intends to address this issue in early 1999 by convening a national 305(b) consistency workgroup.

Point and Nonpoint Sources

States and localities are assumed to be able to continue to raise sufficient funds for construction of necessary wastewater treatment and control facilities. This is especially critical for new regulated sources like storm water and Combined Sewer Overflows (CSOs). In addition they must be able to maintain sufficient programmatic funds to continue to effectively manage point source programs.

It is assumed that states will effectively strengthen and implement improved nonpoint source programs consistent with their commitments in this area. Federal agencies must work together and fulfill their mutual commitments under their Strategic Plans and the Clean Water Action Plan (CWAP) if we are to succeed in addressing nonpoint source (NPS) needs. No one Agency can succeed in NPS management without the partnership efforts of a wide range of Federal, state, local and private sector interests.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

The Safe Drinking Water Information System (SDWIS) is the primary data source for verifying and validating the performance measures related to the objective of enhancing public health through safe drinking water in the Agency=s Annual Plan. There are two components to SDWIS. SDWIS/FED is a national data base (housed on a mainframe computer) that includes the core information needed by EPA to assure that public water systems are in compliance with all of the statutory requirements in SDWA. This core information includes: inventory data on over 170,000 public water systems [1] nationwide, violations of health-based standards and monitoring requirements by these systems, enforcement actions taken against systems by the state or EPA, and sampling results for both regulated and unregulated contaminants in these public water systems.

1 Public Water Systems (PWSs) provide piped water for human consumption to at least 15 service connections (such as households, businesses or schools), or serve an average of at least 25 people at least 60 days per year. PWSs can be community (water is provided to the same population year round), non-transient non-community (serves at least 25 of the same people at least six months of the year, e.g., schools, factories, hospitals) and transient (caters to transitory customers in non-residences such as campgrounds, motels and gas stations).

SDWIS/ STATE is a PC-based system at the state level that has been designed to address the specific drinking water information needs of the state. It includes not only the data that the state must report to SDWIS/FED but also data the state determines to be critical to carry out its primary enforcement authority.

Formal quality assurance/quality control (QA/QC) procedures have been implemented for both data entry and data retrieval. The Agency has a laboratory certification program to ensure that there is a consistent approach and method for collecting and analyzing public water supplies= samples for regulated/ unregulated contaminants. In addition, the Agency conducts itself or supports sanitary survey studies of public water utilities, performs data verification (audits) and management reviews, and provides extensive technical assistance and training on QA/QC measures. The SDWIS Executive Board reviews QA/QC approaches regularly and a peer review process is in place to test any new modules or revisions to existing modules of SDWIS. In addition to completing the design and development of SDWIS/FED modules, significant management attention and staff resources will be focused on expanding ways to strengthen QA/QC. The Agency has already initiated action in this area through its ongoing stakeholder process as data collection, verification, quality and control are very important aspects for measuring how well EPA is achieving its annual as well as longer-term strategic objectives.

Currently, progress in establishing local source water protection measures is tracked by State program managers, and reported every other year to EPA through a Congressionally-mandated report on State Wellhead Protection Programs. EPA will be working with States in 1999 to gain agreement to use this approach to track progress by water systems utilizing surface waters as well as those systems that are ground water based. EPA will also be gaining agreement to report such information as a condition in their State Revolving Fund (SRF) work plans which would then make such data collection subject to audit.

Over the longer term, EPA is working to have progress in community source water protection measured at the individual system level through inclusion into the SDWIS reporting requirements and such reporting would then be subject to that system's QA/QC regimen.

Performance data related to NPDES permits will be tracked largely through the Agency=s Permit Compliance Systems data base which is managed by the Office of Enforcement and Compliance Assurance (OECA). Data entered into this system by the Regions and states is subjected to data entry quality assurance (QA) procedures to verify that the information is consistent with facility-provided information. Quality assurance of facility-reported information is provided programs such as facility inspections. The system includes additional QA features related to discharge data, including software capable of rejecting gross data input errors, and Quality Management Plans with data criteria. Performance data on CWSRF management will be compiled by EPA=s Regional offices through interaction with the states.

The data source for the total population receiving the benefits of secondary wastewater treatment is the Clean Water Needs Survey Database. States enter data into this database following a strict EPA protocol. Before the information is accepted into the database, EPA reviews and approves the data following a strict review protocol. When data problems are detected, follow-up with the states occurs to resolve the problems.

The Agency=s progress toward the goal of clean and safe water can be measured in part by the extent to which point source and nonpoint source (NPS) pollutants are discharged into the Nation=s waters.

Since states are the primary implementers of NPS programs and policies, the extent to which states have upgraded their nonpoint source programs to reflect recent guidance will serve as an available surrogate for measuring progress toward our NPS reduction targets. State program upgrades will be measured by evaluating each state=s explicit short and long-term goals and objectives and their associated indicators that demonstrate progress. EPA will conduct reviews and evaluations of the nonpoint source documents submitted by state agencies describing the nine key elements required to upgrade their nonpoint source management programs. In addition, the Agency will increase emphasis on monitoring and assessment of nonpoint source impacts in order to ensure achievement of long-term goals and objectives.

The performance measure addressing people benefiting from secondary wastewater treatment or better has two data sources: the Clean Water Needs Survey database (CWNS) and the Permits Compliance Systems (PCS). The CWNS provides the population information and PCS provides information on new facilities that are providing secondary treatment or greater.

States enter data into the CWNS database following a strict EPA protocol. Before the information is accepted into the data base, EPA reviews and approves the data following a strict review protocol. When data problems are detected, follow-up with the states occurs to resolve the problems.

Data entered into the Permit Compliance System by the Regions and states is subjected to data entry quality assurance (QA) procedures to verify that the information is consistent with facility-provided information. Quality assurance of facility-provided information is provided by OECA through programs such as facility inspections. The system includes additional QA features related to discharge data, including software capable of rejecting gross data input errors, and Quality Management Plans with data criteria.

Research

EPA has several strategies to validate and verify performance measures in the area of environmental science and technology research. Most performance measures are verifiable through quantitative means. For those measures that are output-oriented, actual outputs or products can be objectively verified. Because the major output of research is technical information, primarily in the form of reports, software, protocols, etc., key to the validation and verification strategies is the performance of both peer and quality assurance reviews.

Peer reviews provide assurance during the pre-planning, planning, and reporting of environmental science and research activities that the work meets peer expectations. Only those science activities and resulting information products that pass Agency peer review are addressed and published. This applies to program-level, project-level, and research outputs.

The quality of the peer review activity is monitored by EPA to ensure that peer reviews are performed consistently, according to Agency policy, and that any identified areas of concern are resolved through discussion or the implementation of corrective action.

A quality assurance system is implemented at all levels in the EPA research organization. The Agency-wide quality assurance system is a management system that provides the necessary elements to plan, implement, document, and assess the effectiveness of quality assurance and quality control activities applied to environmental programs conducted by or for EPA.

This quality management system provides for identification of environmental programs for which

Quality Assurance/Quality Control (QA/QC) is needed, specification of the quality of the data required from environmental programs, and provision of sufficient resources to assure that an adequate level of QA/QC is performed.